

ET: Scienza e Tecnologia in Italia



Report of Contributions

Contribution ID: 1

Type: **not specified**

GWFish: Simulation of gravitational-wave detector networks with Fisher-matrix PE

Tuesday, 20 February 2024 13:40 (1h 20m)

This tutorial will show early career scientists and students the tools used in order to estimate the capabilities of Einstein Telescope in detecting and estimating the parameters of compact binary sources.

It will include an introductory section regarding how compact binary waveforms are parametrized, analyzed with matched filtering, and the Fisher matrix approach.

Then, a hands-on session with the software package GWFish will allow attendees to apply these concepts in practice.

The tutorial will assume basic familiarity with the python programming language.

The hands-on will be based on Google Colab (<https://colab.research.google.com/>) notebooks, therefore no local python installation will be needed, only a Google account.

Presenters: TISSINO, Jacopo; DUPLETSA, Ulyana

Contribution ID: 2

Type: **not specified**

GW follow-up

Tuesday, 20 February 2024 15:45 (1h 20m)

The goal of this tutorial is to give the interested students and young researchers the chance to gain hands-on experience on the modern approaches to creating and manipulating large data sets for the follow-up of the electromagnetic counterparts of GW sources.

The course will assume familiarity with basic concepts in astrophysics, but it will include the basics of photometry, the technique of measuring the flux of a source from an image.

Objectives:

Learn how to build a light curve using Alerts stream.

Learn how classification tools work.

Short Python Survey

Prerequisites to run the notebook

Important. It is recommended to install the dependencies before the start of the school. For any issues or information, please contact fabio.ragosta@inaf.it

Presenters: RAGOSTA, Fabio; PIRANOMONTE, Silvia; MELANDRI, Andrea

Contribution ID: 3

Type: **not specified**

ET Introduction Mock Data Challenge

Tuesday, 20 February 2024 17:20 (1h 20m)

MDC hands on: The lecture will highlight the procedure for accessing the Einstein Telescope Mock Data Challenge (MDC). It will cover fundamental signal processing techniques applied to noise data and provide insights into the detection of astrophysical signals.

Software requirement: code and data in a web browser, but we need to request the AAI credentials for all the students to ESCAPE VRE team.

Presenter: CUOCO, Elena

Contribution ID: 4

Type: **not specified**

Introduction

Wednesday, 21 February 2024 14:00 (10 minutes)

Presenter: BOSSI, Monique (Istituto Nazionale di Fisica Nucleare)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 5

Type: **not specified**

ETiCO2

Wednesday, 21 February 2024 14:10 (15 minutes)

Presenter: MASONI, Alberto (Istituto Nazionale di Fisica Nucleare)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 6

Type: **not specified**

CoMET

Wednesday, 21 February 2024 14:25 (15 minutes)

Presenter: BAZZAN, Marco (Istituto Nazionale di Fisica Nucleare)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 7

Type: **not specified**

PLANET

Wednesday, 21 February 2024 14:55 (15 minutes)

Presenter: DE ROSA, Rosario (UniNA)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 8

Type: **not specified**

AiLoV-ET

Wednesday, 21 February 2024 15:10 (15 minutes)

Presenter: LUMACA, Diana (Università di Roma Tor Vergata e INFN Sezione di Roma Tor Vergata)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 9

Type: **not specified**

ADONI

Wednesday, 21 February 2024 15:25 (15 minutes)

Presenter: ESPOSITO, Simone (INAF)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: **10**

Type: **not specified**

PisaET-IR@CISUP

Wednesday, 21 February 2024 15:40 (15 minutes)

Presenter: FIDECARO, Francesco (University of Pisa and INFN)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: **11**

Type: **not specified**

ARC-ETCRYO

Wednesday, 21 February 2024 16:20 (15 minutes)

Presenter: MAJORANA, Ettore (Istituto Nazionale di Fisica Nucleare)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 12

Type: **not specified**

CAOS

Wednesday, 21 February 2024 16:35 (15 minutes)

Presenter: CHESSA, Piero (UniPG)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: **13**

Type: **not specified**

GEMINI

Wednesday, 21 February 2024 16:50 (15 minutes)

Presenter: HARMS, Jan (Istituto Nazionale di Fisica Nucleare)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 14

Type: **not specified**

SAMaNET

Wednesday, 21 February 2024 17:05 (15 minutes)

Presenter: FRASCONI, Franco (Istituto Nazionale di Fisica Nucleare)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 15

Type: **not specified**

DIFAET

Wednesday, 21 February 2024 17:20 (15 minutes)

Presenter: MORESCO, Michele (UniBO)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: **16**

Type: **not specified**

BETIF

Wednesday, 21 February 2024 17:35 (15 minutes)

Presenter: TRAVAGLINI, Riccardo (Istituto Nazionale di Fisica Nucleare)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: 17

Type: **not specified**

CTLab4ET

Wednesday, 21 February 2024 17:50 (15 minutes)

Presenter: LAVEZZI, Lia (INFN)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: **18**

Type: **not specified**

Discussione

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: **19**

Type: **not specified**

GALILEO

Wednesday, 21 February 2024 14:40 (15 minutes)

Presenter: GARAVENTA, Barbara (Istituto Nazionale di Fisica Nucleare)

Session Classification: ETIC - Einstein Telescope Infrastructure Consortium

Contribution ID: **20**

Type: **not specified**

Virtual Observatory Standards and Tools

Tuesday, 20 February 2024 15:00 (30 minutes)

In this hands-on session, we'll cover the main Virtual Observatory standards in multi-messenger astronomy. Learn how to create credible area of gravitational-wave sky localization using Aladin Desktop and pinpoint galaxies within 90% of the volume with the GLADENet web app. Finally, we will discuss the development of a new standard (Space and Time MOC) and its potential applications in the ET era.

Required software installations: Aladin Desktop

Presenter: GRECO, Giuseppe (Istituto Nazionale di Fisica Nucleare)

Contribution ID: **21**

Type: **not specified**

Welcome talk

Wednesday, 21 February 2024 10:00 (10 minutes)

Presenter: CENCI, Patrizia (Istituto Nazionale di Fisica Nucleare, Sezione di Perugia)

Session Classification: Welcome and Introduction

Contribution ID: 22

Type: **not specified**

Welcome talk

Wednesday, 21 February 2024 10:10 (10 minutes)

Presenter: CARDINI, Alessandro (Istituto Nazionale di Fisica Nucleare)

Session Classification: Welcome and Introduction

Contribution ID: 23

Type: **not specified**

Il progetto ET: una vista internazionale

Wednesday, 21 February 2024 10:20 (20 minutes)

Presenter: PUNTURO, Michele (Istituto Nazionale di Fisica Nucleare)

Session Classification: Welcome and Introduction

Contribution ID: 24

Type: **not specified**

ET - ruolo dell'INFN

Wednesday, 21 February 2024 10:40 (20 minutes)

Presenter: Prof. D'URSO, Domenico (University of Sassari and INFN-LNS)

Session Classification: Welcome and Introduction

Contribution ID: 25

Type: **not specified**

ET - ruolo dell'INAF

Wednesday, 21 February 2024 11:00 (20 minutes)

Presenter: GHIRLANDA, Giancarlo (Istituto Nazionale di Astrofisica - Osservatorio di Brera & INFN sezione di Milano Bicocca)

Session Classification: Welcome and Introduction

Contribution ID: 26

Type: **not specified**

ET - ruolo dell'INGV

Wednesday, 21 February 2024 11:20 (20 minutes)

Presenter: SELVAGGI, Giulio (Istituto Nazionale di Geofisica e Vulcanologia)

Session Classification: Welcome and Introduction

Contribution ID: 27

Type: **not specified**

Sinergie: il progetto TERABIT

Wednesday, 21 February 2024 11:40 (20 minutes)

Presenter: CAMPANELLA, Mauro Augusto (Istituto Nazionale di Fisica Nucleare)

Session Classification: Welcome and Introduction

Contribution ID: 28

Type: **not specified**

Impatto socio-economico

Wednesday, 21 February 2024 12:00 (20 minutes)

Presenter: DEIDDA, Luca (Università degli studi di Sassari)

Session Classification: Welcome and Introduction

Contribution ID: 29

Type: **not specified**

L'ingegneria civile di ET

Wednesday, 21 February 2024 12:20 (20 minutes)

Presenter: Prof. MARSELLA, maria (Sapienza University, Rome)

Session Classification: Welcome and Introduction

Contribution ID: **30**

Type: **not specified**

Comunicare ET

Wednesday, 21 February 2024 12:40 (20 minutes)

Presenter: SERRA, Matteo (C)

Session Classification: Welcome and Introduction

Contribution ID: **31**

Type: **not specified**

The ET Instrument Science Board

Thursday, 22 February 2024 09:00 (20 minutes)

Presenter: HARMS, Jan (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Instrument Science

Contribution ID: **32**

Type: **not specified**

ET suspensions

Thursday, 22 February 2024 09:20 (20 minutes)

Presenter: FIDECARO, Francesco (University of Pisa and INFN)

Session Classification: ET Instrument Science

Contribution ID: 33

Type: **not specified**

ET cryogenics and LF payload

Thursday, 22 February 2024 09:40 (20 minutes)

Presenter: RICCI, Fulvio (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Instrument Science

Contribution ID: **34**

Type: **not specified**

ET optical layout

Thursday, 22 February 2024 10:00 (20 minutes)

Presenter: PERRECA, Antonio (TIFP)

Session Classification: ET Instrument Science

Contribution ID: 35

Type: **not specified**

ET: stray light noise

Thursday, 22 February 2024 10:20 (20 minutes)

Presenter: CONTI, Livia (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Instrument Science

Contribution ID: **36**

Type: **not specified**

ET mirror coatings

Thursday, 22 February 2024 11:00 (20 minutes)

Presenter: CESARINI, Elisabetta (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Instrument Science

Contribution ID: 37

Type: **not specified**

ET wavefront sensing and control

Thursday, 22 February 2024 11:20 (20 minutes)

Presenter: ROCCHI, Alessio (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Instrument Science

Contribution ID: **38**

Type: **not specified**

Environmental-noise mitigation for ET

Thursday, 22 February 2024 11:40 (20 minutes)

Presenter: Dr NATICCHIONI, Luca (INFN Roma)

Session Classification: ET Instrument Science

Contribution ID: 39

Type: **not specified**

Round-table discussions

Thursday, 22 February 2024 12:00 (1 hour)

Presenter: HARMS, Jan (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Instrument Science

Contribution ID: 40

Type: **not specified**

Status of Site Characterization Measurements of Sos Enattos area

Thursday, 22 February 2024 14:20 (20 minutes)

Presenter: Dr NATICCHIONI, Luca (INFN Roma)

Session Classification: ET Site Preparation

Contribution ID: 41

Type: **not specified**

Introduction

Thursday, 22 February 2024 14:00 (10 minutes)

Session Classification: ET Site Preparation

Contribution ID: 42

Type: **not specified**

Measurements at the ET verteces

Thursday, 22 February 2024 14:40 (20 minutes)

Presenter: GIUNCHI, Carlo (Istituto Nazionale di Geofisica e Vulcanologia, Sezione di Pisa)

Session Classification: ET Site Preparation

Contribution ID: 43

Type: **not specified**

Local noise sources

Thursday, 22 February 2024 15:00 (20 minutes)

Presenter: OLIVIERI, Marco (INGV)

Session Classification: ET Site Preparation

Contribution ID: 44

Type: **not specified**

Status of the ET Sites Data repository

Thursday, 22 February 2024 14:10 (10 minutes)

Presenter: FIORI, Alessio (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Site Preparation

Contribution ID: 45

Type: **not specified**

Observational Science Board activities

Friday, 23 February 2024 09:00 (20 minutes)

Presenter: BRANCHESI, Marica (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Observational Science and ET e-Infrastructure

Contribution ID: 46

Type: **not specified**

e-Infrastructure Board activities

Friday, 23 February 2024 09:20 (20 minutes)

Presenter: BAGNASCO, Stefano (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Observational Science and ET e-Infrastructure

Contribution ID: 47

Type: **not specified**

The first ET Mock Data Challenges

Friday, 23 February 2024 09:40 (15 minutes)

Presenter: CUOCO, Elena (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Observational Science and ET e-Infrastructure

Contribution ID: 48

Type: **not specified**

Computing for ET: scenario and challenges (panel discussion)

Friday, 23 February 2024 09:55 (40 minutes)

Presenters: CUOCO, Elena (Istituto Nazionale di Fisica Nucleare); CELLA, Giancarlo (Istituto Nazionale di Fisica Nucleare); GRECO, Giuseppe (Istituto Nazionale di Fisica Nucleare); VALLERO, Sara (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Observational Science and ET e-Infrastructure

Contribution ID: 49

Type: **not specified**

Computing for ET: infrastructures (panel discussion)

Friday, 23 February 2024 10:55 (35 minutes)

Presenters: GRANDI, Claudio (Istituto Nazionale di Fisica Nucleare - Sezione di Bologna); TAF-FONI, Giuliano (INAF); CAMPANELLA, Mauro (GARR); PARDI, Silvio (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Observational Science and ET e-Infrastructure

Contribution ID: 50

Type: **not specified**

Science and Data Analysis challenges (panel discussion)

Friday, 23 February 2024 11:30 (40 minutes)

Presenters: RICCIARDONE, Angelo; PANNARALE, Francesco; SEDDA, Manuel Arca; PANI, Paolo; DUPLETSA, Ulyana

Session Classification: ET Observational Science and ET e-Infrastructure

Contribution ID: 51

Type: **not specified**

Multi-band, multi-probe, multi-messenger: synergies (panel discussion)

Friday, 23 February 2024 12:10 (40 minutes)

Presenters: GHIRLANDA, Giancarlo; DONNARUMMA, Imma; MORESCO, Michele; COLPI, Monica; PIRANOMONTE, Silvia

Session Classification: ET Observational Science and ET e-Infrastructure

Contribution ID: 54

Type: **not specified**

Tender status

Thursday, 22 February 2024 15:20 (10 minutes)

Presenter: SCHILLACI, Gaetano (Istituto Nazionale di Fisica Nucleare)

Session Classification: ET Site Preparation

Contribution ID: 55

Type: **not specified**

Introduction on WP6 Engineering activities

Thursday, 22 February 2024 15:30 (10 minutes)

Presenter: D'ARANNO, P.

Session Classification: ET Site Preparation

Contribution ID: 56

Type: **not specified**

First evaluations on Hydrogeological Water Budget to identify aquifer recharge area in ET infrastructure site

Thursday, 22 February 2024 15:40 (15 minutes)

Presenters: FERRANTI, F.; SAPPA, G.

Session Classification: ET Site Preparation

Contribution ID: 57

Type: **not specified**

Reference geodetic network to support the ET infrastructure (ASI contribution), WEBGIS project for ET in Sardinia, Study of wave motion offshore and inshore as a potential source of noise

Thursday, 22 February 2024 15:55 (15 minutes)

Presenters: SCIPIONE, F.; CAGNIZI, M.; MARZARIO, Monica (Sapienza, University of Rome)

Session Classification: ET Site Preparation

Contribution ID: 58

Type: **not specified**

Seismic noise and shallow subsurface characterization of the ET candidate site in Sardinia

Thursday, 22 February 2024 16:10 (10 minutes)

Presenters: FIDECARO, Francesco (University of Pisa and INFN); GRIGOLI, Francesco (University of Pisa)

Session Classification: ET Site Preparation

Contribution ID: 59

Type: **not specified**

SARDINIAN UNDERGROUND LAB (SUNLAB): Designing spatial components of research infrastructures and their impacts on territorial systems

Thursday, 22 February 2024 16:40 (20 minutes)

Presenters: FAIFERRI, M.; MORO, M.; MAIS, S.

Session Classification: ET Site Preparation